



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,783	09/15/2003	Kazuhiro Suzuki	007356-0305979	7257
909	7590	07/28/2004	EXAMINER	
PILLSBURY WINTHROP, LLP			LIN, ING HOUR	
P.O. BOX 10500				
MCLEAN, VA 22102			ART UNIT	PAPER NUMBER
			1725	
DATE MAILED: 07/28/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/661,783

Applicant(s)

SUZUKI ET AL.

Examiner

Ing-Hour Lin

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 3, lines 3-4, "inn r", "l ve" and "powd r" are unclear. Further, in claim 6, lines 19-20, "f r" and "fri tion" are unclear.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1725

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takehisa et al in view of Nishikawa et al.

Takehisa et al (col. 2, lines 30+) teach the claimed die casting machine, comprising: two split mold parts including a stationary mold 8 and a movable mold 12 forming a mold cavity when the mold parts are brought together; an evacuating means including valve 38 and vacuum tank 40 for reducing the pressure in the cavity; injection sleeve 14; and a plurality of ejector pins 22 for ejecting a solidified article from the mold cavity, wherein a first ejector pin comprising a lubricating agent introduction passageway and nozzle positioned at a front end of the first ejector pin for spraying lubricant from the passageway to a runner (formed partly by a sprue core 20) near the position confronting the injection sleeve for the purpose of reducing the friction between the inside wall of the injection sleeve and chip end 16b of the injection plunger 16. Takehisa et al fail to teach the use of powder mold release agent passageway.

However, Nishikawa et al (col. 4, lines 48+) teach the use of a plurality of powder introducing passageways 31 in a powder discharging pin 3 (Figs. 11-12), wherein the pin is independently movably coupled with a cylinder 35 (Figs. 3-4) for the purpose of effectively moving the pin to a runner and spraying mold releasing agent to the mold cavity and lubricant to the sleeve (col. 10, lines 5-16). It would have been obvious to one having ordinary skill in the art to provide Takehisa et al of a plurality of powder introducing passageways 31 and a cylinder as taught by Nishikawa et al in order to effectively independently moving the first ejector pin to a runner and spraying mold releasing agent to the mold cavity and lubricant to the sleeve.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al in view of Ueno and further in view of Kitamura.

Nishikawa et al (col. 4, lines 48+) teach the claimed casting machine 1, comprising: a pair of dies 2 including a first mold 201 and a second mold 202 for forming cavity section 21 and runner 23; sleeve 22; a release agent feeding means and a lubricant feeding means (a plurality of powder introducing passageways 31 in a powder discharging pin 3) (Figs. 11-12), wherein the pin is capable of spraying mold releasing agent to the mold cavity and lubricant to the sleeve (col. 10, lines 5-16); and a gas evacuating means 4 including a vacuum pump 41 and vacuum tank 42. Nishikawa et al fail to teach the use of a split sleeve and an electromagnetic pump.

However, Ueno (col. 4, lines 13+) teaches the use of a split sleeve for the purpose of effectively injecting molten metal in a vertical die casting machine. Further, Kitamura teaches the use of an electromagnetic pump coupled to a feed block 44 for the purpose of effectively feeding the molten metal to the split sleeve and casting the metal into the mold cavity without unwanted oxidation of molten metal. It would have been obvious to one having ordinary skill in the art to provide Nishikawa et al the use a split sleeve and an electromagnetic pump as taught by Ueno and Kitamura in order to effectively cast article in a mold cavity without unwanted oxidation of molten metal.

7. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al in view of Ueno and further in view of Kitamura and Kuramasu et al.

Nishikawa et al in view of Ueno and further in view of Kitamura fails to teach the use of a chill vent and check valve.

However, Kuramasu et al (col. 6, lines 62+) teaches the use of a chill vent 32 and check valve 72 positioned in the claimed configurational relationship with the evacuation path (gas passage) 64 for the purpose of effectively preventing the attack of molten metal to the

Art Unit: 1725

vacuum system and enhancing the vacuum condition of the mold cavity and split sleeve. It would have been obvious to one having ordinary skill in the art to provide Nishikawa et al in view of Ueno and further in view of Kitamura the use a chill vent and check valve as taught by Kuramasu et al in order to effectively cast article in a mold cavity without porosity.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ing-Hour Lin whose telephone number is (571) 272-1180. The examiner can normally be reached on M-F (8:00-5:30) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/s/ I.H.L.

I.-H.Lin

Kiley Stoner AU 1725
Kiley Stoner 7/26/04

7-19-04